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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,331	04/13/2006	Hans-Martin Wiedenmann	10191/4194	8679

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EXAMINER	
RIPA, BRYAN D	
ART UNIT	PAPER NUMBER
1795	
MAIL DATE	DELIVERY MODE
06/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,331	WIEDENMANN ET AL.	
	Examiner	Art Unit	
	BRYAN D. RIPA	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/20/05; 3/11/08; 12/3/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 9, 10 and 12-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Stahl et al., (WIPO Pub. No. 01/071333) with reference made to English equivalent U.S. Pub. No. 2003/0154764 (hereinafter referred to as "STAHL").

Regarding claim 9, STAHL teaches a sensor element for determining a property of a measuring gas comprising a solid electrolyte (oxygen-ion-conducting solid electrolyte layer 11c), a diffusion barrier (see diffusion barrier 12), at least one electrode applied on the solid electrolyte and being in contact with the measuring gas via a diffusion path in which the diffusion barrier is situated (see measurement electrode 21 in

which is in contact with the measuring gas via a diffusion path through diffusion barrier 12), and an arrangement provided in a region of a side of the diffusion barrier facing away from the at least one electrode for reducing a diffusion cross section in the region of the side of the diffusion barrier facing away from the at least one electrode (see coarse-pore catalytically active layer 14a which is in a region of a side of the diffusion barrier 12 facing away from measurement electrode 21 and which reduces the diffusion cross section in that region). See figure 2 below.

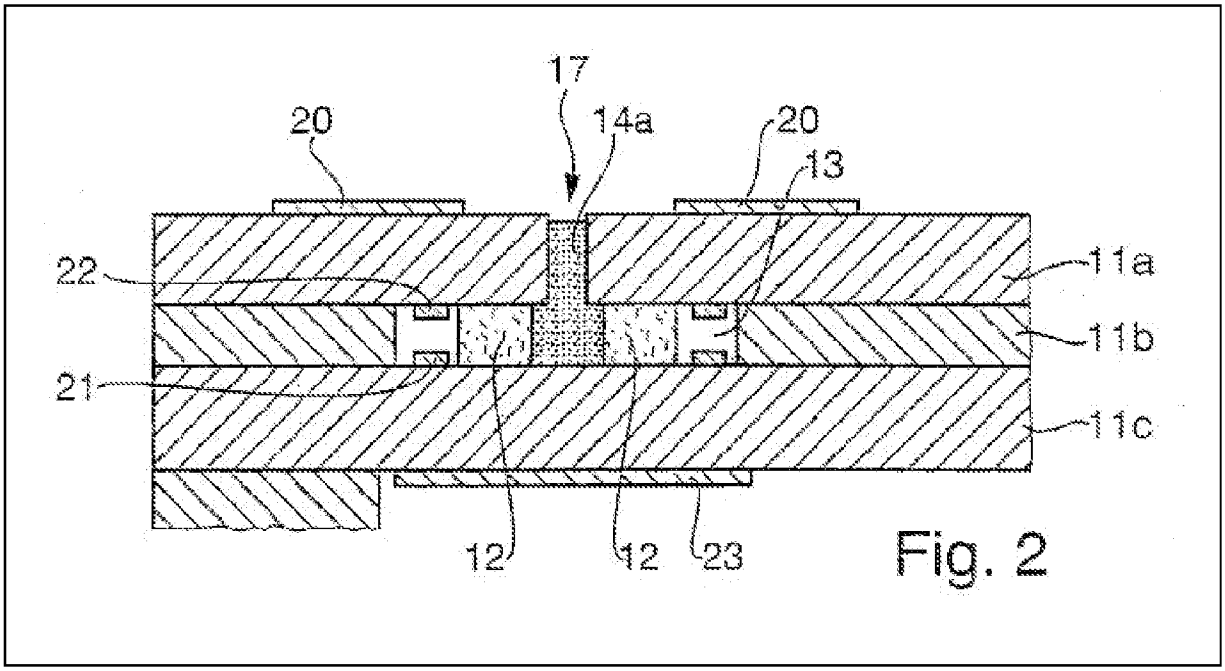


Fig. 2

Regarding claim 10, STAHL teaches the sensor element for determining a property of a measuring gas wherein the sensor element determines a concentration of a gas component in the measuring gas (see ¶1 and claim 1). See figure 2 above.

Regarding claim 12, STAHL teaches the sensor element for determining a property of a measuring gas wherein the diffusion barrier has a substantially cylindrical shape (see diffusion barrier 12 above comprising a cylindrical shape around coarse-pore catalytically active layer 14a and gas inlet opening 17). See figure 2 above.

Regarding claim 13, STAHL teaches the sensor element for determining a property of a measuring gas wherein the at least one electrode includes an annular shape and surrounds the diffusion barrier so that an exhaust gas is able to travel through a gas entry opening into an interior region of the diffusion barrier and from there via the diffusion barrier to reach the at least one electrode (see ¶15 teaching the inner electrodes, i.e. measurement electrode 21 and pump electrode 22, being annular in shape which would surround diffusion barrier 12 so that the measurement gas would pass through gas inlet opening 17 and through the diffusion barrier 12 to measurement electrode 21). See figure 2 above.

Regarding claim 14, STAHL teaches the sensor element for determining a property of a measuring gas wherein the arrangement includes an annular element provided in a region of the gas entry opening (see coarse-pore catalytically active layer 14a being an annular element that is provided in the region of gas inlet opening 17). See figure 2 above.

Regarding claim 15, STAHL teaches the sensor element for determining a property of a measuring gas wherein the arrangement includes at least one arrow-like element provided in a region of the gas entry opening (see coarse-pore catalytically active layer 14a which would consist of an arrow-like cylinder extending through the region of gas inlet opening 17). See figure 2 above.

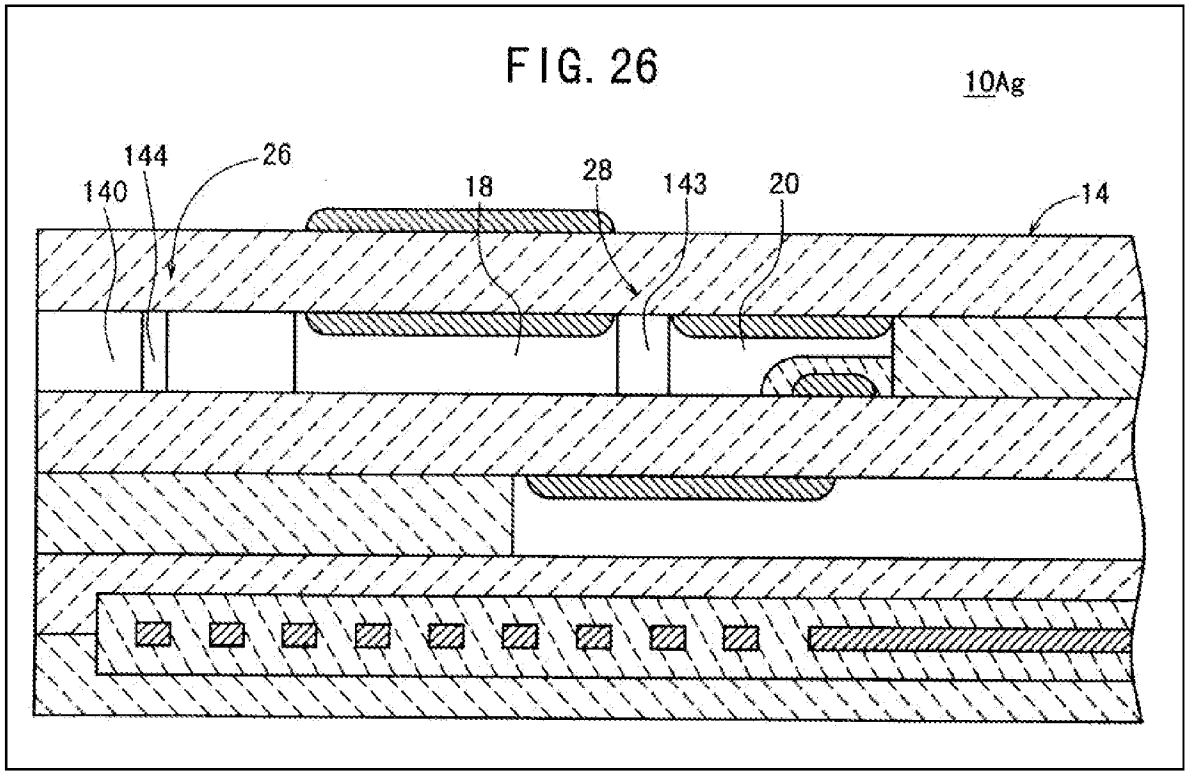
Regarding claim 16, STAHL teaches the sensor element for determining a property of a measuring gas wherein a height of the at least one arrow-like element corresponds to a height of the diffusion barrier (see the height of coarse-pore catalytically active layer 14a next to diffusion barrier 12 corresponding to the height of diffusion barrier 12). See figure 2 above.

Regarding claim 17, STAHL teaches the sensor element for determining a property of a measuring gas wherein A_1/r_1 is greater than A_2/r_2 as claimed (see diffusion barrier 12 which is an annular shape and coarse-pore catalytically active layer 14a which is annular shaped in the region immediately adjacent to diffusion barrier 12, which because r_1 is greater than r_2 with a constant height would meet the claimed relationship). See figure 2 above.

Please note, using the formula for the diffusion cross sectional area $\pi r^2 h$ with the relationship r_1 greater than r_2 the claimed relationship can be found to be met by STAHL.

2. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al., (U.S. Pat. No. 6,355,152) (hereinafter referred to as "KATO").

Regarding claim 9, KATO teaches a sensor element for determining a property of a measuring gas comprising a solid electrolyte (see solid electrolyte layer 14 and col. 7 lines 58-63), a diffusion barrier (see second diffusion rate-determining section 28), at least one electrode applied on the solid electrolyte and being in contact with the measuring gas via a diffusion path in which the diffusion barrier is situated (see electrode in second chamber 20 which is in contact with the measuring gas via a diffusion path through second diffusion rate-determining section 28), and an arrangement provided in a region of a side of the diffusion barrier facing away from the at least one electrode for reducing a diffusion cross section in the region of the side of the diffusion barrier facing away from the at least one electrode (see first diffusion rate-determining section 26 which is in a region of a side of second diffusion rate-determining section 28 facing away from the electrode in second chamber 20 and which reduces the diffusion cross section in that region). See figure 26 below.



Regarding claim 10, KATO teaches a sensor element for determining a property of a measuring gas wherein the sensor element determines a concentration of a gas component in the measuring gas (see col. 7 lines 51-57).

Regarding claim 11, KATO teaches a sensor element for determining a property of a measuring gas wherein the arrangement is gas-impermeable (see figure 25b and col. 17 line 54-col. 18 line 4 acting as an additional diffusion barrier that forces the measurement gas through section 26 and thus necessarily being gas-impermeable). See figure 26 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN D. RIPA whose telephone number is 571-270-7875. The examiner can normally be reached on Monday to Friday, 9:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. D. R./
Examiner, Art Unit 1795

/Brian J. Sines/

Supervisory Patent Examiner, Art Unit 1795